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Notice of Allowability	Application No.	Applicant(s)	
	09/975,779	LEE ET AL.	
	Examiner	Art Unit	
	Gordon J Stock	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 9/1/04.
2. ☒ The allowed claim(s) is/are 1-6, 8-15 and 17.
3. ☒ The drawings filed on 6/22/04 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other <u>PTOL413B;20040914</u> . |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Raj Davé on September 9, 2004. Please refer to attached Examiner-Initiated Interview Summary. In addition, an examiner's amendment was authorized by telephone interview with Mr. Raj Davé on September 14, 2004. Specifically, on September 14, 2004 claim 3 was discussed to eliminate a potential objection to the claim for not further limiting the claim and to remove the 35 U.S.C. 103(a) rejection of the previous action because the term 'a substrate' is not further limiting for the magnetic disc itself is a substrate. It was decided that claim 3 would have the following added to the end "prior to deposition of any recording layers on the magnetic disc" which coincides with the allowable subject matter of claim 4; thereby, making claims 3, 5, and 6 allowable.

A new abstract follows as well as amended **claims 1, 3, 4, and 8**.

Please cancel previous abstract. The new abstract is as follows:

Abstract:

The invention relates to a method for testing a magnetic disc having a plurality of tracks, and apparatus for such testing. The method includes scanning the magnetic disc along radial lines,

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storing a sequence of data points representing slopes of a plurality of tracks along the radial lines, operating on the stored set of points to determine a measured average slope for each track around an entire revolution of each track to establish a representative slope for each of the tracks of the plurality of tracks, taking a radial moving average to establish a sequence of data points, and comparing the curvature profile to a pre-established limit to determine suitability of the disc for use in a disc drive.

As for the claims, the amended claims are:

1. (Currently amended) A method for testing a magnetic disc to be used in a disc drive, the magnetic disc having a plurality of tracks, comprising the steps of:

rotating the magnetic disc;
scanning the magnetic disc along radial lines;
storing a sequence of data points representing slopes of a plurality of tracks along the radial lines;

operating on the stored sets of points to determine a measured average slope for each track of said plurality of tracks around an entire revolution of said each track to establish a representative slope for each of the tracks of the plurality of tracks;

taking a radial moving average to establish a sequence of data points, each data point being an average for a plurality of the tracks, and each track is represented by its representative slope;

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taking a radial derivative of the sequence of data points on the surface of the disc;
building a curvature profile of the disc; and
comparing said curvature profile to a pre-established limit to determine suitability of the disc for use in a disc drive,

wherein the step of taking a radial moving average comprises developing an average over a plurality of tracks sufficient in number to eliminate spikes from appearing in a subsequent step.

3.(Currently amended) A method for testing a magnetic disc to be used in a disc drive, the magnetic disc having a plurality of tracks, comprising the steps of:

rotating the magnetic disc;
scanning the magnetic disc along radial lines;
storing a sequence of data points representing slopes of a plurality of tracks along the radial lines;

operating on the stored sets of points to determine a measured average slope for each track of said plurality of tracks around an entire revolution of said each track to establish a representative slope for each of the tracks of the plurality of tracks;

taking a radial moving average to establish a sequence of data points, each data point being an average for a plurality of the tracks, and each track is represented by its representative slope;

taking a radial derivative of the sequence of data points on the surface of the disc;
building a curvature profile of the disc; and

comparing said curvature profile to a pre-established limit to determine suitability of the disc for use in a disc drive, wherein the method of testing is performed on a substrate of the magnetic disc prior to deposition of any recording layers on the magnetic disc.

4.(Currently amended) A method for testing a magnetic disc to be used in a disc drive, the magnetic disc having a plurality of tracks, comprising the steps of:

rotating the magnetic disc;

scanning the magnetic disc along radial lines;

storing a sequence of data points representing slopes of a plurality of tracks along the radial lines;

operating on the stored sets of points to determine a measured average slope for each track of said plurality of tracks around an entire revolution of said each track to establish a representative slope for each of the tracks of the plurality of tracks;

taking a radial moving average to establish a sequence of data points, each data point being an average for a plurality of the tracks, and each track is represented by its representative slope;

taking a radial derivative of the sequence of data points on the surface of the disc;

building a curvature profile of the disc; and

comparing said curvature profile to a pre-established limit to determine suitability of the disc for use in a disc drive, wherein the method is performed on an aluminum substrate prior to deposition of any recording layers on the magnetic disc.

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8.(Currently amended) A method as claimed in claim 1 [[7]], wherein:
the disc drive comprises a read/write head for reading and writing data on a surface of a magnetic disc, and
the radial length of the radial moving average is smaller than a width of the head.

Allowable Subject Matter

2. **Claims 1-6, 8-15, and 17** are allowed.

3. The following is an examiner's statement of reasons for allowance:

As to **claim 1**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for testing a magnetic disc to be used in a disc drive, the magnetic disc having a plurality of tracks "developing an average over a plurality of tracks sufficient in number to eliminate spikes from appearing in the differentiation step," in combination with the rest of the limitations of **claims 1-2, 8-10**.

As to **claim 3**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for testing a magnetic disc "testing is performed on the substrate of a magnetic disc prior to deposition of any of the recording layers," in combination with the rest of the limitations of **claim 3, 5, and 6**.

As to **claim 4**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for testing a magnetic disc "the method is performed on an aluminum substrate prior to deposition of any of the recording layers," in combination with the rest of the limitations of **claim 4**.

As to **claim 11**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for testing a magnetic disc "wherein the radial length of each number

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of tracks is chosen to eliminate spikes from appearing in a differentiation step,” in combination with the rest of the limitations of **claims 11-15**.

As to **claim 17**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an apparatus for testing a magnetic disc “wherein the radial length is chosen to eliminate spikes from appearing in a differentiation process” in combination with the rest of the limitations of **claim 17**.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Response to Arguments

4. Applicant’s arguments, see Remarks, filed September 1, 2004, with respect to the rejections under 35 U.S.C. 112 1st paragraph, 2nd paragraph, and 103(a) have been fully considered and are persuasive except for the argument for the 35 U.S.C. 103(a) rejection of claims 3, 5, and 6. Due to the amendment of the claims and the persuasiveness of the arguments, the rejections under 35 U.S.C. 112 1st paragraph, 2nd paragraph, and 103(a) in the previous action have been withdrawn. As for claims 3, 5, and 6, please see Examiner’s Amendment above.

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

1) Contain either a statement “DRAFT” or “PROPOSED AMENDMENT” on the fax cover sheet; and

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2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (703) 872-9306

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431.

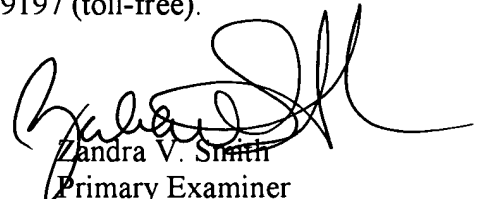
The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gs

September 14, 2004


Zandra V. Smith
Primary Examiner
Art Unit 2877